

WHAT IS CLAIMED IS:

1. An electroplating apparatus for electroplating a workpiece,
comprising:
an electroplating reactor including a reactor vessel for holding
5 electroplating solution; and
a segmented anode array positioned in said reactor vessel for immersion
in the plating solution,
said anode array comprising a plurality of anode segments having
differing dimensions, said array being operable to facilitate uniform deposition
10 of electroplated metal on said workpiece.
2. An electroplating apparatus in accordance with claim 1, wherein
said reactor vessel defines an axis with the workpiece being positionable
in generally transverse relationship to said axis;
said anode array being configured such that at least one of said anode
15 segments having a relatively greater dimension is positioned further from said
axis than another one of said anode segments having a relatively lesser
dimension.
3. An electroplating apparatus in accordance with claim 1, wherein
said plurality of anode segments are generally coplanar.
- 20 4. An electroplating apparatus in accordance with claim 1, wherein
said plurality of anode segments are coaxial.
5. An electroplating apparatus in accordance with claim 4, wherein
each of said anode segments is circular, with said anode segments being
concentric with each other.
- 25 6. An electroplating apparatus in accordance with claim 1, wherein
said segmented anode array includes a mounting base upon which said
anode segments are mounted, said mounting base defining at least one flow
passage for directing flow of the electroplating solution between adjacent ones
of said anode segments.
- 30 7. An electroplating apparatus in accordance with claim 1, including

dielectric means positioned between at least two adjacent ones of said anode segments for facilitating uniform deposition of electroplated metal on the workpiece.

- 5 8. An electroplating apparatus for electroplating a workpiece, comprising:

an electroplating reactor including a cup-shaped reactor vessel for holding electroplating solution, said reactor vessel defining an axis, with the workpiece being positionable in generally transverse relationship to said axis, a segmented anode array positioned generally at the lower extent of said reactor vessel in generally perpendicular relationship to said axis, said anode array comprising a plurality of circular anode segments arranged in concentric relationship to each other about said axis.

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9. An electroplating apparatus in accordance with claim 8, wherein said plurality of anode segments are generally coplanar.
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10. An electroplating apparatus in accordance with claim 8, wherein each of said anode segments is of a generally toroidal configuration.

11. An electroplating apparatus in accordance with claim 8, wherein said segmented anode array includes a mounting base upon which said anode segments are mounted, said mounting base defining at least one flow passage for directing flow of the electroplating solution therethrough.
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12. An electroplating apparatus in accordance with claim 11, wherein a central-most one of said anode segments defines an opening aligned with said axis, said flow passage defined by said mounting base being aligned with said opening.

- 25 13. An electroplating apparatus in accordance with claim 11, wherein said flow passage is positioned generally between two adjacent ones of said anode segments for directing flow of the electroplating solution therebetween.

- 30 14. An electroplating apparatus in accordance with claim 13, including

a plurality of said flow passages arranged in a pattern of concentric circles to direct flow from electroplating solution between adjacent ones of said anode segments.

5 15. An electroplating apparatus in accordance with claim 11, wherein said mounting base includes a plurality of depending, flow-modulating projections defining flow channels therebetween.

 16. An electroplating apparatus in accordance with claim 8, including control means operatively connected to said segmented anode array for independently operating said plurality of anode segments.

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